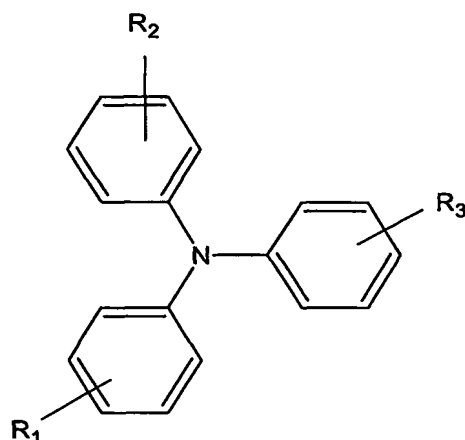


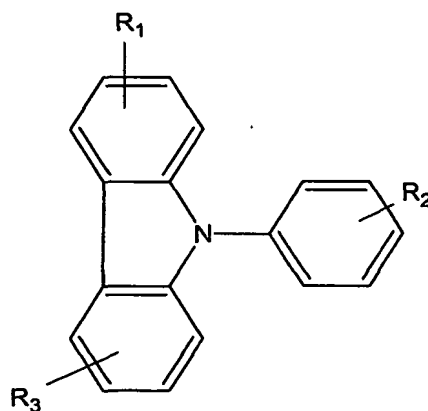
CLAIMS:

1. An electroluminescent compound selected from binuclear, trinuclear, oligonuclear, and/or polynuclear complexes of metals comprising at least one bridging ligand which is bound and/or coordinated to at least two of said metals, whereby at least one of said ligands is fully-conjugated at least between the binding and/or coordination  
5 sites of said metals.
2. An electroluminescent compound according to claim 1, in which the metals are rare earth metals, preferably selected from the group comprising La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu.  
10
3. An electroluminescent compound according to claim 1 or 2, in which the metals are the same.
4. An electroluminescent compound according to any of the claims 1 to 3 in  
15 which the electroluminescent compound comprises at least one ligand bound to at least one of the metals which contains a functional group which is an hole transporting ligand.
5. An electroluminescent compound according to claim 4, where the hole-  
20 transporting functional group having a general structure of formula I and/or formula II:



I

wherein R<sub>1</sub>, R<sub>2</sub> and/or R<sub>3</sub> are independently selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine.



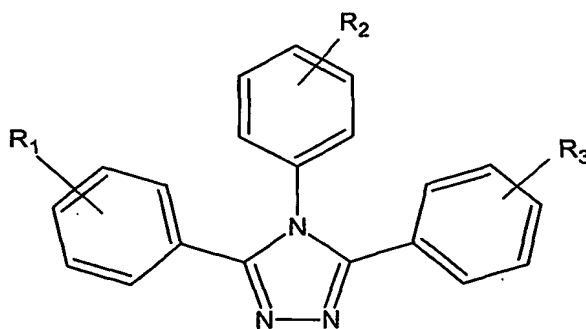
II

10

wherein R<sub>1</sub>, R<sub>2</sub> and/or R<sub>3</sub> are independently selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine.

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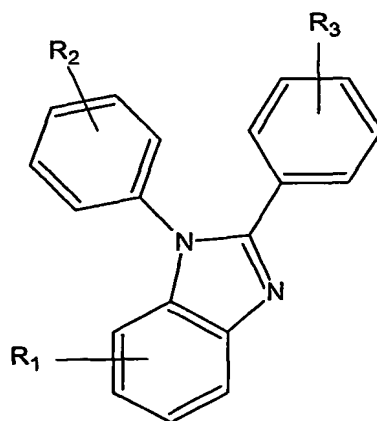
6. An electroluminescent compound according to any of the claims 1 to 5 in which the electroluminescent compound comprises at least one ligand bound and/or coordinated to at least one of the metals ( $M_1 \dots M_n$ ) which is an electron transporting ligand
7. An electroluminescent compound according to claim 6, where the electron-transporting ligand has a general structure of formula III, IV, V or VI:



III

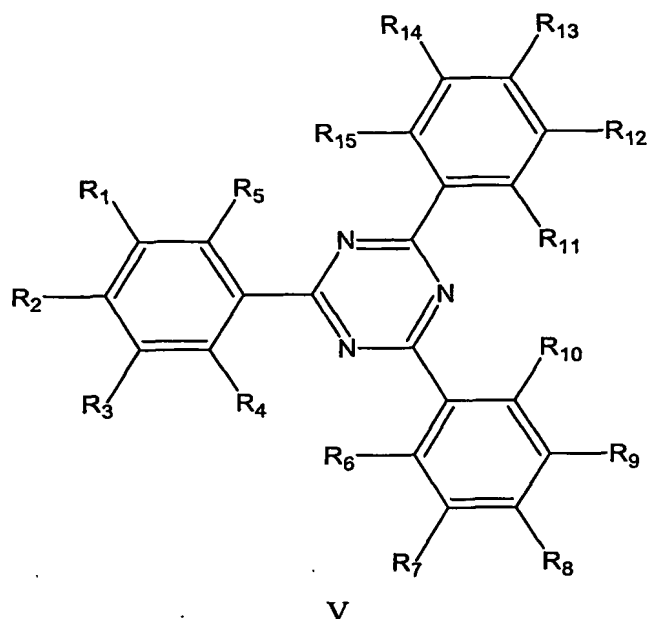
10

- hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine

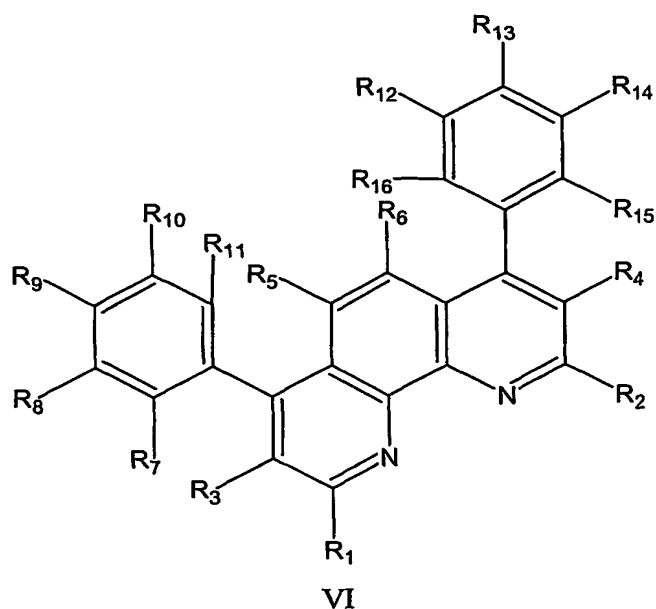


IV

wherein  $R_1$ ,  $R_2$  and/or  $R_3$  are independently selected from a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine,

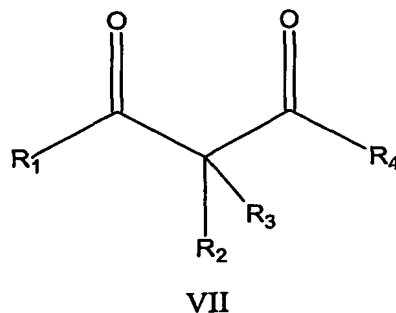


wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ ,  $R_7$ ,  $R_8$ ,  $R_9$ ,  $R_{10}$ ,  $R_{11}$ ,  $R_{12}$ ,  $R_{13}$ ,  $R_{14}$  and/or  $R_{15}$  are independently selected from a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine,

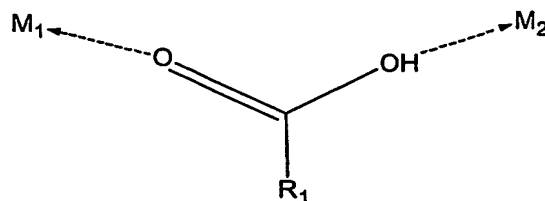


wherein  $R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9, R_{10}, R_{11}, R_{12}, R_{13}, R_{14}, R_{15}$   
 5 and/or  $R_{16}$  are independently selected from a group comprising hydrogen, hydroxyl,  
 halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl,  
 arylene-containing substituents, heteroaryl, heteroarylene-containing substituents,  
 heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-  
 containing substituents, phosphonate, phosphate, phosphine, phosphine oxide,  
 10 sulphonyl, sulphonate, sulphate, sulphone, and amine.

8. An electroluminescent compound according to any of the claims 1 to 7,  
 wherein at least one of said bridging ligands having the general structure of formula VII  
 to XVI

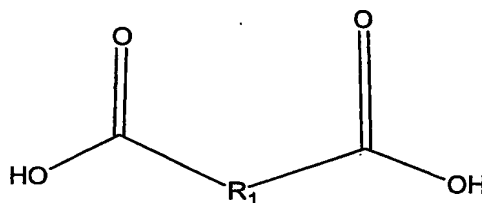


wherein  $R_1$ ,  $R_2$ ,  $R_3$  and/or  $R_4$  are independently selected from a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine,



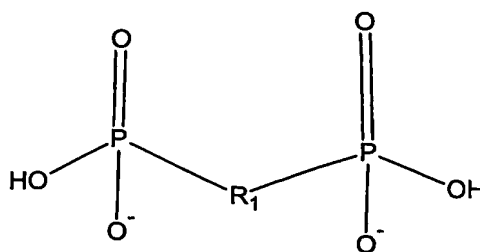
VIII

wherein  $R_1$  is selected from a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine;



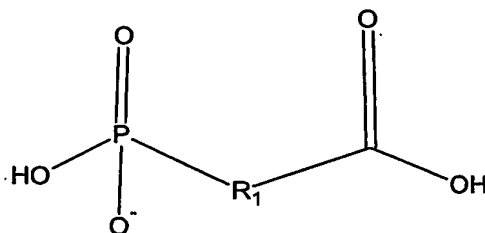
IX

wherein  $R_1$  is at least in the bridging part between the two carboxyl groups fully conjugated and is selected out of a group comprising arylene, heteroarylene, alkylene, alkynylene, conjugated polyene, perhalogen,  $-CHY-$  and  $CH(CH_2)_xY$ , where  $Y$  is selected out of a group comprising alkyl, aryl, heteroaryl, cycloalkyl, heterocycloalkyl, alkenyl,  $C_1-C_6$ -alkyl- $C_6H_5$ , phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine and wherein  $x$  is an integer number or zero,



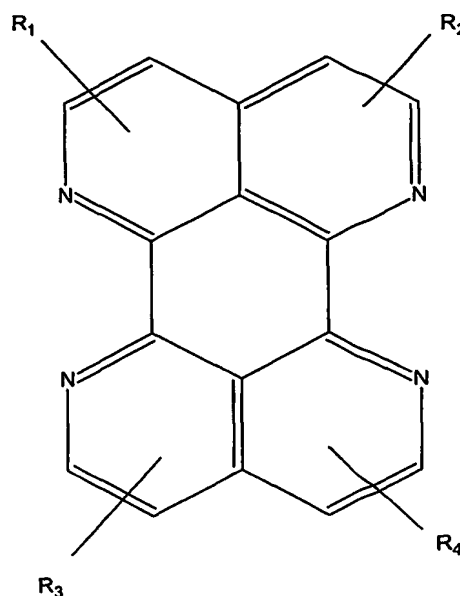
X

wherein  $\text{R}_1$  is at least in the bridging part between the two phosphoryl groups fully conjugated and is selected from a group comprising arylene, heteroarylene, alkylene, alkynylene, conjugated polyene, perhalogen,  $-\text{CHY}-$  and  $\text{CH}(\text{CH}_2)_x\text{Y}$ , where Y is selected out of a group comprising alkyl, aryl, heteroaryl, cycloalkyl, heterocycloalkyl, alkenyl,  $\text{C}_1\text{-C}_6\text{-alkyl-C}_6\text{H}_5$ , phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine and wherein x is an integer number or zero,



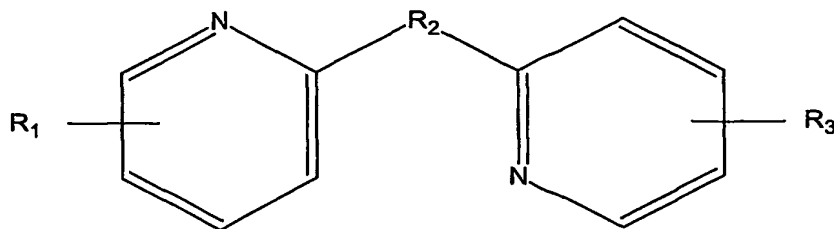
XI

wherein  $\text{R}_1$  is at least in the bridging part between the carboxyl group and the phosphoryl group fully conjugated and is selected from a group comprising arylene, heteroarylene, alkylene, alkynylene, conjugated polyene, perhalogen,  $-\text{CHY}-$  and  $\text{CH}(\text{CH}_2)_x\text{Y}$ , where Y is selected out of a group comprising alkyl, aryl, heteroaryl, cycloalkyl, heterocycloalkyl, alkenyl,  $\text{C}_1\text{-C}_6\text{-alkyl-C}_6\text{H}_5$ , phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine and wherein x is an integer number or zero,



XII

wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> and/or R<sub>4</sub> are independently selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine;

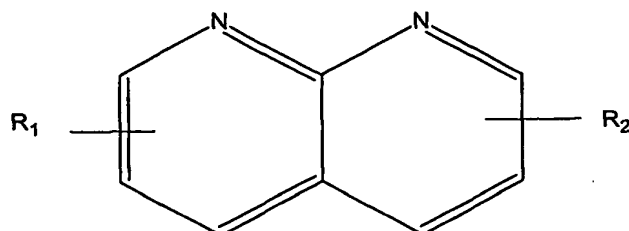


XIII

wherein R<sub>2</sub> is at least in the bridging part between the pyridyl groups fully conjugated and is absent or selected out of a group comprising arylene, heteroarylene, alkylene, alkynylene, conjugated polyene, perhalogen, wherein R<sub>1</sub> and R<sub>3</sub> are selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl,

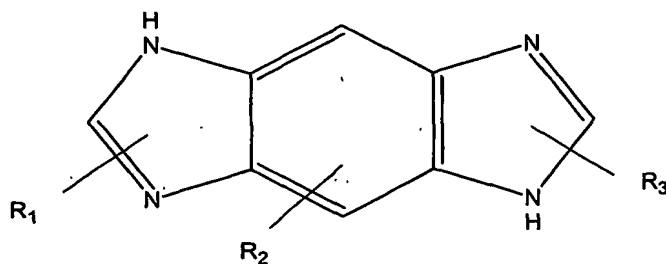


alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine.



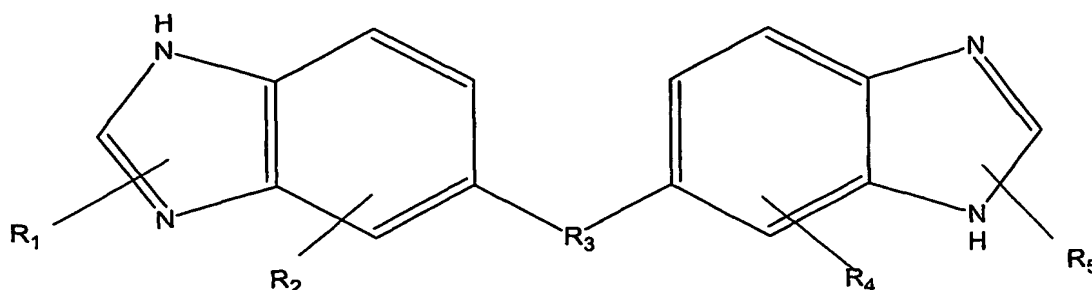
XIV

5 wherein  $R_1$  and/or  $R_2$  are independently selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing  
 10 substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine;



XV

15 wherein  $R_1$ ,  $R_2$  and/or  $R_3$  are independently selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing  
 20 substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine,



XVI

- wherein  $R_3$  is at least in the bridging part between the benzimidazol groups fully conjugated and is absent or selected from a group comprising, arylene, heteroarylene, alkylene, alkynylene, conjugated polyene, perhalogen, wherein  $R_1$ ,  $R_2$ ,  $R_4$  and/or  $R_5$  are independently selected out of a group comprising hydrogen, hydroxyl, halogen, perhalogen, carboxylate- and/or carbonyl derivatives, alkyl, cycloalkyl, aryl, arylene-containing substituents, heteroaryl, heteroarylene-containing substituents, heterocycloalkyl, alkenyl, alkylene-containing substituents, alkynyl, alkynylene-containing substituents, phosphonate, phosphate, phosphine, phosphine oxide, sulphonyl, sulphonate, sulphate, sulphone, and amine.

9. An electroluminescent device which comprises sequentially at least one first electrode, at least one layer of an electroluminescent compound and at least one second electrode whereby the at least one electroluminescent compound is selected according to any of the claims 1 to 8

10. A lighting unit comprising an electroluminescent device according to claim 9 for the use in household applications, shop lighting, home lighting, accent lighting, spot lighting, theater lighting, fiber-optics applications, projection systems, self-lit displays, pixelated displays, segmented displays, warning signs, medical lighting applications, indicator signs, and decorative lighting.